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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/929,240	08/13/2001	Stephen F. Gass	SDT 303	8809
27630	7590	09/22/2005	EXAMINER	
SD3, LLC 22409 S.W. NEWLAND ROAD WILSONVILLE, OR 97070			ASHLEY, BOYER DOLINGER	
			ART UNIT	PAPER NUMBER
			3724	

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/929,240

Applicant(s)

GASS ET AL.

Examiner

Boyer D. Ashley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15,21,25,26 and 30-34 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,8-15,21,25,26 and 30-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/24/05; 6/4/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: See Continuation Sheet.

Continuation of Attachment(s) 6). Other: 1449's- 2/27/05; 12/19/04; 9/6/04.

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DETAILED ACTION

1. This office action is in response to applicant's response filed 7/7/05. It should be noted that the double patenting rejections have been reviewed and withdrawn in light of applicant's amendment in this and all copending applications, abandonments, and by applicant's arguments presented in the above-mentioned responses.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5, 8-12, 21, 25-26 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friemann et al., U.S. Patent 3,858,095, or Yoneda, U.S. Patent 4,117,752, in view of Baur, U.S. Patent 3,695,116.

Friemann et al. or Yoneda all discloses similar invention as claimed, including for example, support structures (see elements 15, 18, 21 in Yoneda; 11, 6-9, 10 in Friemann et al.), a cutting tool (14 in Yoneda, 5 in Friemann et al.), a detection system (see columns 1 and 3, lines 59-65 and 14-25, A in Yoneda; see column 1, lines 44-55, Cbm, bridge 3, 4 in Friemann et al.) capable of detecting a dangerous condition between the cutting tool and a person, a reaction system (see 20 in Yoneda; see columns 3 and 4, lines 34-68 and 1-20 in Friemann et al.) adapted to perform a specified action upon detection of the dangerous condition.

The braking systems of Friemann et al., and Yoneda are all electromechanical braking systems wherein a braking element is actuated by electromagnetic/solenoid such that the braking element engages the blade or drive of the blade to stop the blade; hence, Friemann et al., and Yoneda lack a fusible member and fuse firing subsystem for actuating the brake. However, Baur discloses that it is old and well known in the art to replace solenoids and electromagnetic switches with spring loaded actuators with firing subsystems that are electrically responsive by tensioned wires for the purpose of providing fast acting, less expensive, and smaller devices that provide large mechanical forces. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to replace the electromagnetic/solenoid actuators of Friemann et al., and Yoneda with spring loaded actuators with firing subsystems, as taught by Baur, in order to create less expensive, smaller and fast acting braking systems.

As to claim 9, the modified devices of Friemann et al. and Yoneda all disclose at least two spaced-apart electrodes (26 or 36 or 34), where at least a portion of the fusible member is positioned to contact and extend between the electrodes (see Figures 1-3). It should be noted that there is no specific definition of "electrode", and is typically defined as solid electrical conductor through which current passes.

As to claim 10, the modified devices of Friemann et al. and Yoneda all disclose the spacing between the electrodes is less than 1.0 inches, see column 4, lines 20-30, wherein it is stated that the outside diameter of the housing 10 is 0.5 inches, wherein

the distance between elements 34 or 26 as shown in Figures 1 and 3 must be less than 1.0 inch.

As to claims 11 and 12, the modified devices of Friemann et al. and Yoneda lack the specific spacing between the electrodes being either less than 0.1 inch or 0.05 inches. However, it would have been an obvious matter of design choice to make the modified devices of Lokey, Friemann et al., Yoneda with either electrode spacing of less than 0.1 inch or 0.05 inch for the purpose of making the modified devices of Friemann et al, Yoneda as small as possible and as desired, because such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art.

As to claim 25, the fused wire of the modified devices would require replacement if used again.

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Friemann et al. or Yoneda in view of Baur as applied to claim 1 above, and further in view of Gaiis et al., U.S. Patent 4,589,047.

The modified devices of Friemann et al. and Yoneda disclose the invention substantially as claimed except for the circuit board where the electrodes are traces on the circuit board. However, the examiner takes official notice of the use of electrode traces on circuit boards for the purpose of smaller and more compact device as taught e.g. by Gaiis et al. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use a circuit board for mounting the

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actuation device of the modified devices of Friemann et al., Yoneda, and in order to reduce the overall size of the actuator.

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Friemann et al. or Yoneda in view of Baur as applied to claim 1 above, and further in view of Gaiis et al., U.S. Patent 4,589,047.

The modified devices of Friemann et al. and Yoneda disclose the invention substantially as claimed except for the at least one silicon controlled rectifier. However, Gaiis et al. discloses that it is old and well known in the art to use SCR with fusible member actuating devices for the purpose of controlling the flow of current such that triggering of the actuator is facilitated. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use a SCR with the modified devices of Friemann et al. and Yoneda in order to facilitate the triggering of the actuator.

6. Claims 1-2, 4-5, 8-15, 21, 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friemann et al., U.S. Patent 3,858,095, or Yoneda, U.S. Patent 4,117,752, in view of Gaiis et al., U.S. Patent 4,589,047.

Friemann et al. or Yoneda both disclose similar invention as claimed, including for example, support structures (see elements 15, 18, 21 in Yoneda; 11, 6-9, 10 in Friemann et al.), a cutting tool (14 in Yoneda, 5 in Friemann et al.), a detection system (see columns 1 and 3, lines 59-65 and 14-25, A in Yoneda; see column 1, lines 44-55, Cbm, bridge 3, 4 in Friemann et al.) capable of detecting a dangerous condition between the cutting tool and a person, a reaction system (see 20 in Yoneda; see

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columns 3 and 4, lines 34-68 and 1-20 in Friemann et al.) adapted to perform a specified action upon detection of the dangerous condition.

The braking systems of Friemann et al. and Yoneda both are electromechanical braking systems wherein a braking element is actuated by electromagnetic/solenoid such that the braking element engages the blade or drive of the blade to stop the blade; hence, Friemann et al., and Yoneda all lack a fusible member and fuse firing subsystem for actuating the brake. However, Gaiis et al. discloses that it is old and well known in the art to use switching devices comprised of spring biased actuators with firing subsystems that are electrically responsive by tensioned wires for the purpose of providing fast acting, less expensive, and smaller devices that provide large mechanical forces. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to replace the electromagnetic/solenoid actuators of Friemann et al., and Yoneda with spring loaded actuators with firing subsystems, as taught by Gaiis et al., in order to create less expensive, smaller and fast acting braking systems.

As to claim 9, the modified devices of Friemann et al. and Yoneda all disclose at least two spaced-apart electrodes (see the leads in Figure 6), where at least a portion of the fusible member is positioned to contact and extend between the electrodes. It should be noted that there is no specific definition of "electrode", and is typically defined as solid electrical conductor through which current passes.

As to claims 10-12, the modified devices of Friemann et al. and Yoneda lack the specific spacing between the electrodes being either less than 1.0 inches or rather 0.1

inch or 0.05 inches. However, it would have been an obvious matter of design choice to make the modified devices of Friemann et al., Yoneda with either electrode spacing of less than 1.0 inches or 0.1 inch or 0.05 inch for the purpose of making the modified devices of Friemann et al, Yoneda as small as possible and as desired, because such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art.

As to claim 13, the modified devices of Friemann et al. and Yoneda disclose the invention substantially as claimed including a circuit board (60) where the electrodes are traces on the circuit board.

As to claim 14, the modified devices of Friemann et al. and Yoneda disclose the use of a capacitor with the firing system. See element 18 of Gaiis et al.

As to claim 15, the modified devices of Friemann et al. and Yoneda disclose the invention substantially as claimed including at least one silicon-controlled rectifier (see column 4, lines 12-30).

As to claim 25, the fused wire of the modified devices would require replacement if used again.

7. Claims 30-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Julien et al., U.S. Patent 5,056,426.

Julien et al. discloses the same invention as claimed including, e.g., an electrode system including a first (30) and second (32) electrodes electrically connected to a current source; a fusible member (nitinol wires 18/46) electrically interconnecting the electrodes; an electrical gate (43 or 44 or 45, column 3, lines 30-50) interposed between

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at least one of the electrodes and the current source to selectively control the flow of current from the current source to the at least one electrode, wherein the fusible member carries a tensile load of at least 10,000 psi and/or 100,000 psi. Julien et al. discloses that typical load carrying capacity is in the range of 750 pounds. Julien et al. further discloses that the diameter of the wire controls the speed of actuation and gives examples of 0.010 inches to 0.080 inches. Therefore, Julien et al. inherently discloses a tensile load of at least 100,000 psi because a load of 750 lbs with a wire diameter of 0.07 inches gives tensile load of 194,883 psi.

Julien et al., does the need for the fusible member to fuse within milliseconds; however, lacks the specific teaching of the fusible member fusing in less than 10 milliseconds. It would have been obvious to one having ordinary skill in the art at the time the invention was made for the fusible member of Julien et al. to fuse in less than 10 milliseconds for the purpose of providing a safe and efficient release mechanism with minimal interference with the overall goal device, because it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

As to claim 32, the modified device of Julien et al. discloses the invention substantially as claimed except that the wires are made of nitinol instead of stainless steel or nichrome. However, the examiner takes official notice that nichrome is old and well known in the art for its high tensile strength and temperature stability. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use nichrome instead of nitinol in order to provide increased with

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high tensile strength and temperature stability, because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

8. Claim 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Julien et al., U.S. Patent 5,046,426, as applied to claim 30 above and further in view of McCormick, U.S. Patent 5,471,888.

The modified device of Julien et al. discloses the invention substantially as claimed except that the fusible member is spring tempered. However, the examiner takes official notice that it is old and well known in the art to use spring tempered fusible wires because of their increase in hardness, as taught for example by McCormick. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use spring tempered wires in order to provide increased hardness. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use spring tempered fusible members in order to provide increased hardness, because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

Response to Amendment

9. The Declaration under 37 CFR 1.132 filed 7/7/05 is insufficient to overcome the rejection of the above claims based upon Friemann et al., Yoneda, Baur, Gaiis et al. as set forth in the last Office action because: it fails to set forth any facts and showings commensurate in scope with the claims.

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Applicant's additional Declaration is appreciated. The examiner has no doubts as to the potential dangers of existing cutting tools to their users nor does the examiner doubt value of applicant's invention to a user of cutting tools; however, this does not obviate art rejections or the need for specific claim language defining the invention over the existing prior.

Response to Arguments

10. Applicant's arguments filed 7/7/05 have been fully considered but they are not persuasive.

Applicant contends that there is no suggestion to combine Friemann and Yoneda as the resulting structure would not result in an operable device as the specific structures of Baur and Friemann and Yoneda would not function together. However, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In this case, the combined teaches of Friemann, Yoneda and Baur suggest to one of ordinary skill in the art a cutting machine with a detection system, reaction system and fusible member.

11. For the reasons above, the grounds of rejection are deemed proper.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Boyer D. Ashley whose telephone number is 571-272-4502. The examiner can normally be reached on Monday-Thursday 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allan N. Shoap can be reached on 571-272-4514. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Boyer D. Ashley
Primary Examiner
Art Unit 3724

BDA
September 18, 2005